Best Steam- Air Gas.	Water-Gas I.	Water-Gas II.
Cubic metre. Cubic metre. (18) 0 required for 1-82 00x0-5=0 91 0 . (12) „ „ „ 0-24 H X0-5=0-120 .	Cubic metre. 0-93 0 0-93 0	Cubic metre. 1 -86 O
Total 0 required l-Q'5 0 . This 0 carries with it N (1) . . 3*87 N" .	1-86 0 700N	1-86 O 7-00 N
Products of Combustion produced from		
Cubic Cubic metre, metre. C02 0-04)1.0*00 CO (18)1-82 J lbbLU*	1-86 C02 7-OON	1-86 co* 7-00 N
H 0-24=0-24 HaO vapour	1-86II/) vapour	3-72 HaO vapour.

The products of combustion are in all cases 1*86 cubic metre C024-7'00 cubic metres N, plus changing amounts of water-vapour, and those, by the way, exactly as much as were used in the production of the gases. By the ordinary methods of gas analysis, the water condenses, and there will only be found 1*86 cubic metre 002 + 7*00 cubic metres N
If, therefore, on combustion, products of combustion appear in which the ratio of C02 to N corresponds to 1*86 cubic metre to 7'00 cubic metres, one arrives at the conclusion that it has been produced from pure C.
In case it be known that not solid carbon, but a gaseous fuel has, on combustion with air, resulted in these products of combustion, so the composition of the same shows that pure C has served in the production of the gas, which has been gasified by means of pure air or water, or both. But knowledge will be required whether, and, in that event, how much, water took part in the gasification; thus, further, either the water-vapour content of products of combustion should be estimated, or the hydrogen content of the gas itself should be tested. From these estimates the role which devolved upon the water-vapour in the gasification is clearly shown.
Conversely it appears possible that a different composition of the products of combustion indicates that the original fuel was not pure carbon, but that it contained impurities. If one